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TECHNICAL NOTE

FOREST INSECTS AND DISEASES IN KEJIMKUJIK NATIONAL PARK IN 1988

Personnel of the Forest Insect and Disease Survey regularly survey national parks for forest insect and disease conditions. Some of the conditions encountered in Kejimkujik National Park in 1988 are discussed briefly below.

Gypsy moths are a major pest of forest and shade trees in many parts of the United States, southern Ontario, and southern Quebec. This insect has been present in western Nova Scotia since 1981 and was first found in Kejimkujik Park in 1983. In 1988, 152 adult pheromone traps were placed, with the assistance of Park staff, as part of the province-wide gypsy moth monitoring program. A total of 689 moths were captured in these traps, an average of 4.53 moths captured per trap. One old and one new egg mass were found during the fall survey in a hardwood stand 2 km south of Eel Weir Bridge on the Mersey River. Intensive monitoring for this insect will continue in 1989. All Park visitors who find suspected gypsy moth should report them to Park personnel.

Pine leaf adelgid requires two coniferous hosts (spruce and white pine) to complete its complicated life cycle. The insect causes a gall formation at the base of spruce buds one year and, the following year, flies to white pine, where it feeds on new shoots. Damage to spruce is usually not serious but feeding on white pine causes the shoots to droop, turn red, and die. If population levels on pine are high, tree mortality can occur. Population levels of this adelgid have declined in the Park and elsewhere in Nova Scotia in 1988. Damaged shoots on white pine in the Park ranged from 7 to 68%, but galls on red spruce shoots were low with a maximum of 8% affected. The occurrence of red, drooping shoots on white pine is expected to be less evident in the spring of 1989, due to the decline in adelgid population levels as indicated by the low number of galls found on red spruce this year.

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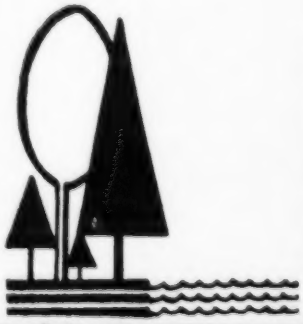

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Oak leafroller and **oak leaf shredder** continued to cause varying degrees of defoliation, ranging from 53 to 100% of leaves damaged in oak stands throughout the Park. The oak leafroller was again responsible for most of the damage. This continuing loss of foliage during the past number of years has resulted in 10-50% twig and branch mortality in the upper crowns of trees.

White pine weevil larvae feed on the inner bark of the leaders of young, open-growing pines and spruces, with a preference shown for white pine and Norway spruce. Infested leaders usually turn red, assume a distinctive shepherd's crook shape, and die. White pine weevil damage, ranging from 8 to 20% of the trees affected, was present throughout the Park.

Porcupines continue to damage and kill young tamarack, black spruce, white pine, and scattered balsam fir throughout the Park. Damage was also observed in a young red pine plantation at Rogers Brook, where 16% of the trees were affected.

Flat leaftier occurs on oak and a number of other tree species throughout eastern North America. They feed singly between two tied leaves, one leaf flat on top of the other. This insect was found on oak throughout the Park, with all trees affected and up to 35% of leaves tied in some areas. Damage caused by this leaftier is, generally, not serious.

Birch leafminer larvae feed between the epidermal layers of the leaf and produce a blotchy mine which turns reddish brown as the season progresses, giving heavily infested trees a scorched appearance. Leaf browning ranged from light to moderate on roadside gray birch in the Park.

Pine bark adelgid is an insect that feeds on the stem and shoots of eastern white pine and secretes a conspicuous white woolly mass. This insect, found at several sites, affected 4 to 52% of white pine stems.

Early leaf browning of largetooth aspen was observed near the Big Dam Lake Parking lot. A leaf fungus, as well as numerous wounds and old twig cankers of unknown origin, were present. The exact cause of the condition is, as yet, unexplained.

Spruce budworm populations in the Park and elsewhere in Nova Scotia were very low in 1988 and no change in this trend is anticipated in 1989.

Other **pests** of interest - **larch casebearer** caused light defoliation on trees at Rogers Brook; **birch skeletonizer** damaged 33% of the leaves on white birch near Heber Meadows; **fall webworm** was found at scattered locations on alder and birch; **eastern tent caterpillar** was observed on cherry; **alder flea beetle** on alder; **ragged spruce gall adelgid** on red spruce; **needle cast** on balsam fir; **needle rust** on eastern hemlock and **brown felt fungus** on white pine were discovered at trace and light levels throughout the Park.

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